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ABSTRACT OF THE DISCLOSURE

5 An n-InP second upper cladding layer 22 is laid on a p-InP lower cladding layer 14 while an active layer 16 whose upper and lower boundary surfaces are uniformly flat in the direction of optical waveguide is interposed therebetween. A diffraction layer 20 having a phase-shifted structure provided in the direction of optical waveguide is interposed between the lower cladding layer 14 and the active layer 16, or between the second upper cladding layer 22 and the active layer 16. The length L of the diffraction grating layer 10 20 in the direction of an optical waveguide is taken as  $L \leq 260 \mu\text{m}$ ; a mean coupling factor  $\kappa$  of a diffraction grating layer is taken as  $\kappa \geq 150 \text{ cm}^{-1}$ ; and a value  $\kappa L$ , which is the product of the length L and the mean coupling factor  $\kappa$ , is taken as  $5.6 > \kappa L > 3.0$ .

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